CROUZET

Front Panel Digital Timers TMR48 D

Performance Version 48x48 mm

Syr-line MDA2, MDF1, GDF1, GDS2 Series

Syr-line Digital Timers: higher precision and many programming features with the biggest screen ever seen in the timer relays' market and the most intuitive programming for ease to use and fast configuration.



24-240 VAC/DC | IP66 | 8 Pins | 11 Pins

Electrical Control & Protection > Timer Relays > Front Panel > **Digital**

Highlights

- Large LED or LCD Screen (13.2 mm)
- Multi-function and single-function
- Basic & Advance configuration modes
- Multi-range (0.05 s – 9999 h)
- Multi-voltage (24-240 VAC/DC)
- 1 or 2 relay outputs (Changeover)
- Memory option in event of a break in supply
- Lock function
- Up or down timing
- DIN Sized (48x48 mm) Housing
- Compact body (63 mm long)
- Water & Dust-proof (IP66)
- 8 Pins & 11 Pins connections

Standards

CE | UKCA | cULus LISTED | RoHS REACH COMPLIANT

Part Numbers

MDA2R10MV2	MDF1R10MV2	GDF1R10MV2	GDS2R10MV2
			
Functions A Series: MDA2	Functions: A - Ac - Ad - B - C - H - L - Li - D - Di Series: MDF1	Functions: A - Ac - Ad - B - C - H - L - Li - D - Di Series: GDF1	Functions: A - Ab - Ac - Ad - AMt - At - B - C - H - Ht - L - Li - T - W - D - Di Series: GDS2

Part numbering system

GD	S	1	R	10	MV2

Type:
MD: Digital 8 Pins
GD: Digital 11 Pins

Function:
A: ON-Delay
E: Multifunction E
F: Multifunction F
S: Multifunction S

Output Qty:
1: 1 Output
2: 2 Outputs

Output Type:
R: Relay

Output Power:
10: 10 A
05: 5 A

Power Supply:
MV2: 24-240 VAC/DC
MVA: 100-240 VAC/DC
24U: 24 VAC/DC

More Info.

HERE

Specifications

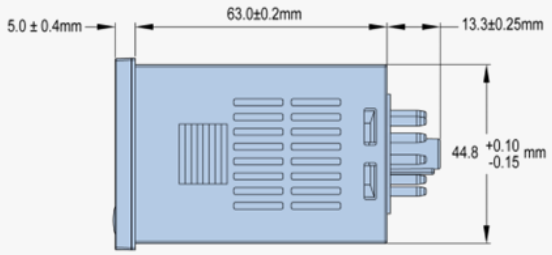
	MDA2R10MV2	MDF1R10MV2	GDF1R10MV2	GDS2R10MV2
Inputs				
Supply voltage	24-240 VAC/DC			
Voltage supply tolerance	-15%, +10%			
AC supply voltage frequency	50/60 Hz ± 5%			
Galvanic isolation of supply / inputs	No			
Max power consumption at Un	2.5 VA (VAC) 1 W (VDC)			
Immunity to power micro cuts	10 ms			
Timing				
Timing ranges	IEC 1812-1: 0.001 s - 9.999 s, 0.01 s - 99.99 s, 0.1 s - 999.9 s, 1 s - 9999 s, 1 s - 99 min 59 s, 0.1 min - 999.9 min, 1 min - 9999 min, 1 min - 99 h 59 min, 0.1 h - 999.9 h, 1 h - 9999 h			
Minimum control pulse duration	IEC 1812-1: 1 ms or 20 ms selectable			
Recovery time (after by de-energization)	IEC 1812-1: 120 ms max			
Repeatability	IEC 1812-1: ≤ ± 0.03% ± 20 ms (VDC) / 50 ms (VAC)			
Setting accuracy (full range)	IEC 1812-1: ≤ ± 0.03% ± 20 ms (VDC) / 50 ms (VAC)			
Drift temperature	≤ ± 0.03% ± 20 ms (VDC) / 50 ms (VAC)			
Drift voltage	≤ ± 0.03% ± 20 ms (VDC) / 50 ms (VAC)			
Outputs				
Output configuration	2 CO (SPDT)	1 CO (SPDT)		2 CO (SPDT)
Maximum switching voltage	250 VAC / 10 A resistive / 125 VDC / 0.3 A resistive			
Switching current rate (resistive)	NO/NC: 2x10 A at 40°C 250 VAC / 2x10 A at 40°C 30 VDC NO/NC: 2x8 A at 60°C 250 VAC / 2x8A at 60°C 30 VDC	NO/NC: 10 A 250 VAC / 10 A 30 VDC		NO/NC: 2x10 A at 40°C 250 VAC / 2x10 A at 40°C 30 VDC NO/NC: 2x8 A at 60°C 250 VAC / 2x8A at 60°C 30 VDC
Maximum switching power (resistive)	2x2500 VA / 2x300 W	2500 VA / 300 W		2x2500 VA / 2x300 W
Electrical life (operations)	1x10⁵ cycles (10 A 250 VAC resistive)			
Minimum breaking current	10 mA / 12 VDC			
Maximum rate (at max switching power)	360 cycles / h			
Mechanical life (operations)	10x10⁶ cycles			
Dielectric strength	Between open contacts: 1 kV / 1 min / 1 mA / 50 Hz			
Insulation				
Rated insulation voltage	IEC 60664-1: 300 V			
Insulation coordination	IEC 60664-1: Overvoltage category III; pollution degree 2			
Rated impulse voltage	IEC 60664-1: 4 kV (1.2/50 µs)			
Clearance / creepage distances	IEC 60664-1: 3 mm / 3.2 mm			
Dielectric strength	EN-61812-1: 2.5 kV / 1 min / 1 mA / 50 Hz			
Insulation resistance	NFC 93 050: > 500 MΩ / 250 VDC / 1 min			

Specifications

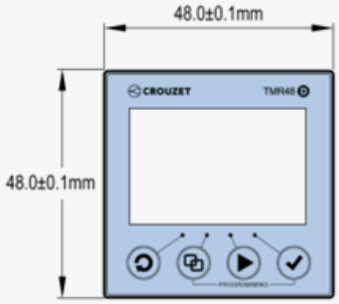
	MDA2R10MV2	MDF1R10MV2	GDF1R10MV2	GDS2R10MV2
General characteristics				
Display	4 digits per value 7 segments LCD			
Memory backup	EEPROM (rewrite 1 000 000 times min, 40 years data hold min)			
Casing	48x48 mm (1/16 DIN)			
Mounting	Front panel, by clip Base-mounted on socket			
Mounting position	All positions			
Housing material	UL94: enclosure plastic type V0			
Degree of protection	IEC 60529: Front Face IP66 with front panel seal / Housing IP20			
Operating temperature	IEC 60068-2: -10°C to +60°C			
Storage temperature	IEC 60068-2: -30°C to +70°C			
Humidity	IEC 60068-2-30: 93% without condensation			
Vibration resistance	IEC 60068-2-6: ± 0.15 mm 10 Hz - 60 Hz / 2 g 60 Hz - 150 Hz			
Shock resistance	IEC 60068-2-27: 15 gn – 11 ms, 3x6 axis (Output non-energized) / 5 gn – 11 ms, 3x6 axis (Output energized)			
Drop to concrete floor	IEC 60068-2-32: Height: 0.75 m			
Weight	Approx. 105 g (150 g with packing)			
Standards				
EU Directives	2014/30/EU: EMC 2014/35/EU: Low voltage			
Approvals / marking	CE, cULus Listed Industrial Control Equipment			
Security standard	IEC 60664-1: Insulation coordination for equipment within low-voltage systems			
Conformity with environmental directives	2015/863/UE: RoHS 1907/2006: Reach 2012/19/UE: WEEE			
Product standard	IEC 61812-1: Specified time relays for industrial use UL 508 (60947-4-1): Industrial Control Equipment (NRNT- Industrial Control Switches)			
Immunity to electrostatic discharges	IEC 61000-4-2: Level III Air ± 8 kV Contact ± 6 kV			
Immunity to radiated, radio-frequency, electromagnetic field	IEC 61000-4-3: Level III 10 V/m (80 MHz - 1 GHz) 80% AM (1 kHz) 3 V/m (1.4 - 2 GHz) 80% AM (1 KHz) 1 V/m (2 - 2.7 GHz) 80% AM (1 KHz)			
Immunity to rapid transient bursts	IEC 61000-4-4: Level IV Direct ± 4 kV (power supply) Capacitive coupling clamp ± 2 KV (command input and outputs)			
Immunity to shock waves on power supply	IEC 61000-4-5: Level III Line-to-earth ± 2 kV Line-to-line ± 1 kV			
Immunity to radiofrequency in common mode	IEC 61000-4-6: Level III 10 Vrms (0,15 - 80 MHz) 80% AM (1 kHz)			
Immunity to voltage dips and breaks	IEC 61000-4-11: Industrial Class II, 0% residual voltage during 1 cycle AC power ports, 70% residual voltage during 25/30 cycles AC power ports, 0% residual voltage, 250/300 cycles AC power ports. Residential: 0% residual voltage during 10 cycle AC power ports, 40% residual voltage during 10 cycles AC power ports, 70% residual voltage during 10 cycles AC power ports, 0% residual voltage, 250/300 cycles AC power ports.			
AC/DC main port emissions	EN55022 / CISPR22 Class B EN 55011 / CISPR11 Class B, Group 1			
Radiated emissions	EN55022 / CISPR22 Class B EN 55011 / CISPR11 Class B, Group 1			

Dimensions (mm)

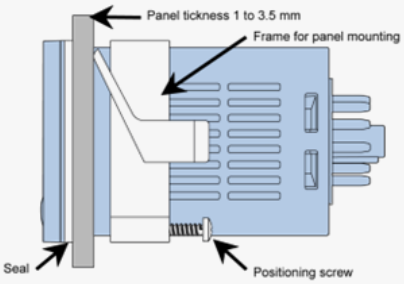
Side view



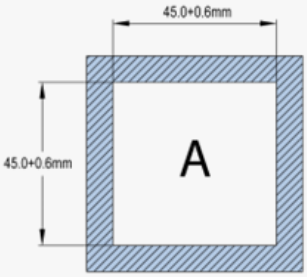
Front view



Mounting



Panel Cut-out



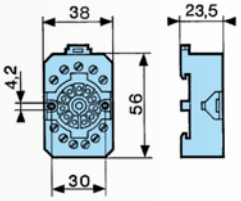
Accessories



Socket for DIN Rail or Panel Mount

Plug-In 8 Pins

25622130

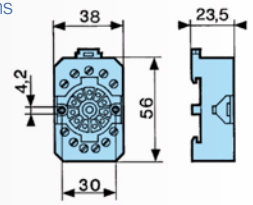




Socket for DIN Rail or Panel Mount

Plug-In 11 Pins

25622080





Socket with Screw Terminal

Plug-In 8 Pins

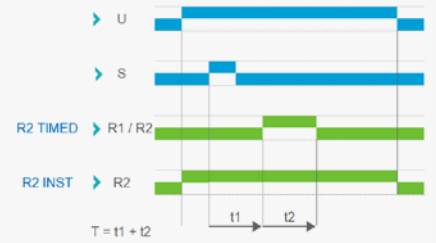
25622203

Function diagrams

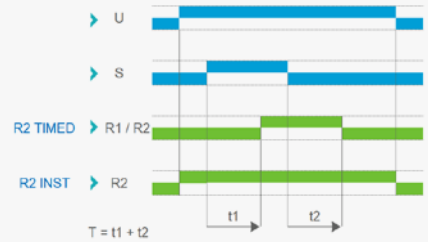
Function A: On-Delay (Delay on make)



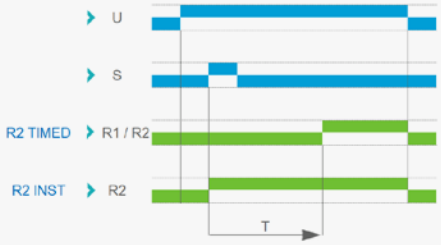
Function Ab: Delayed Interval



Function Ac: On/Off Delay (Delay on make/break)



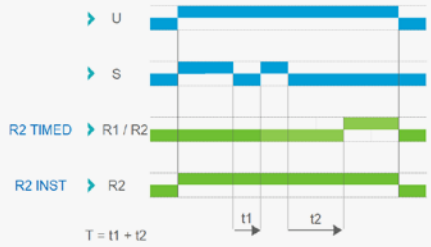
Function Ad: Delay on Start



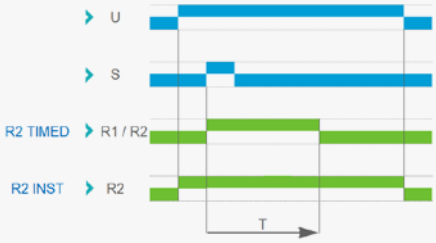
Function AMt: On-Delay (Delay on make, Total memory: one delay)



Function At: Summation Time Relay



Function B: One-Shot



Function C: Off-Delay (Delay on brake)



Function D: Flasher (Symmetrical) - OFF Start

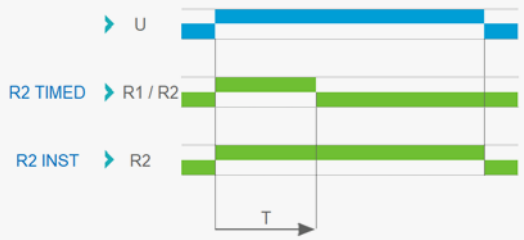


Function Di: Flasher (Symmetrical) - ON Start

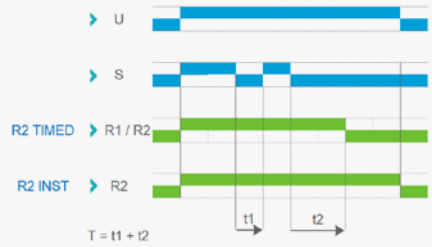


Function diagrams

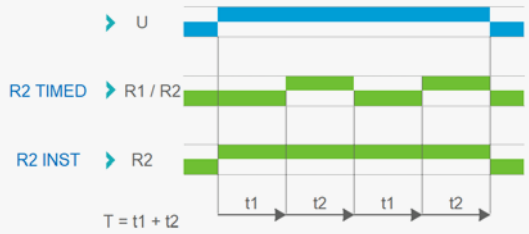
Function H: Interval



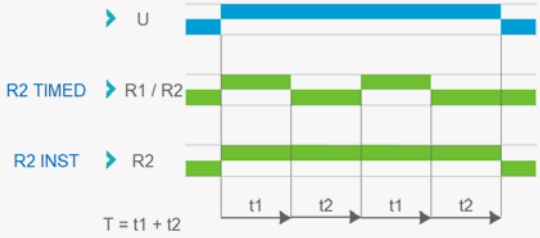
Function Ht: interval summation time relay



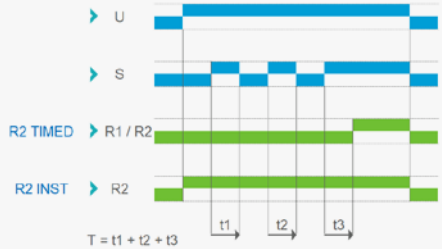
Function L: Recycler (OFF Start)



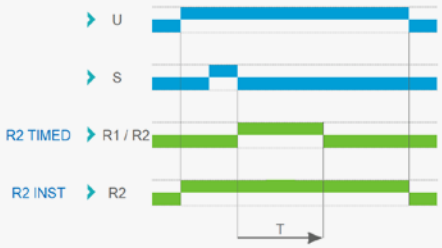
Function Li: Recycler (ON Start)



Function T: On-Delay (Delay on make): sum of times

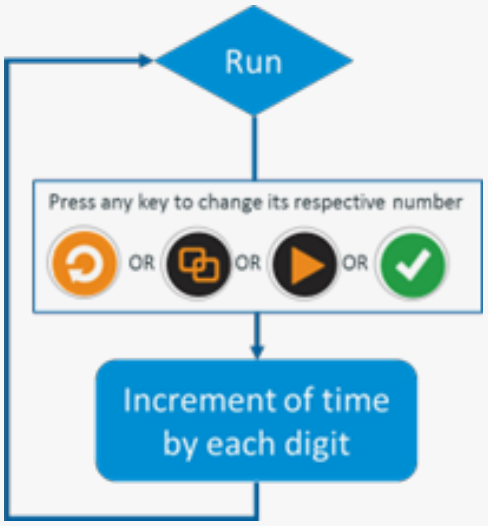


Function W: Timing after pulse of control contact

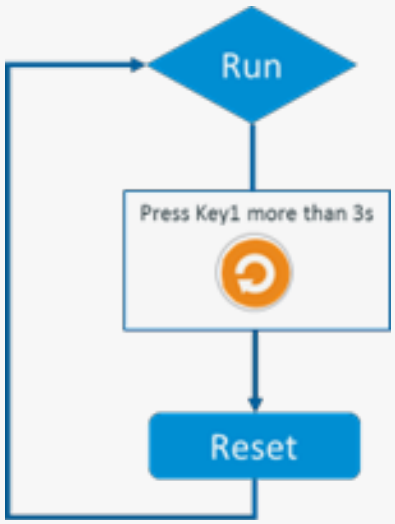


Key functions

Set time



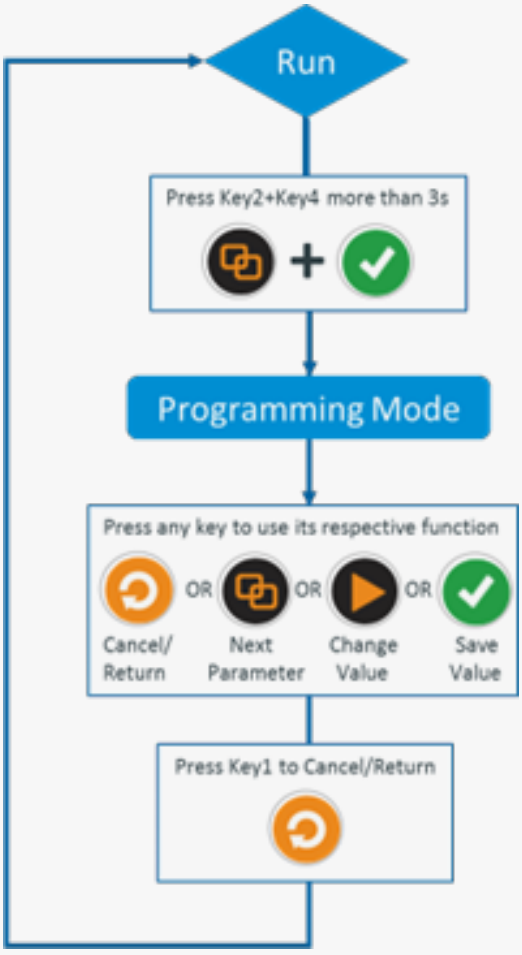
Reset time



Check configured time and function



Programming mode



Programming mode

Programming main menu

#	Parameter	Value
1	PASS **Pass** If "Lock" function is on, pass needs to be entered	0000 0000
2	bASI C_PrOG **Basic Prog** Enter to Basic Programming Mode	
3	AdUAnCEd_PrO G **Advanced Prog** Enter to Advanced Programming Mode	
4	tESt **Test** Enter to Test Mode	

Basic programmation menu

#	Parameter	Value
1	FUnCtI on **Function** Select the timing function	A Ab Ac Ad AMt At b C A Ab Ac Ad AMt At B C H Ht L Li d di t W H Ht L Li D Di T W
2	tI ME_rAnGE **Time Range** Select the timing range	-.---s --.--s ---.-s ----s --m--s -.---s --.--s ---.-s ----s --m--s ---.-m -----m --h--m ---.-h ----h ---.-m -----m --h--m ---.-h ----h
3	CoUnt **Count** Select the timing count up or down	UP doWn Up Down
4	MEMory **Memory** Activate memory option (save timing after power off)	oFF on Off On
5	oUtPUt_2 **Output 2** Select if Out 2 works timed or instantaneous (MDA2, GDS2)	tI ME InSt Timed Instantaneous

Programming mode

Advanced programmation menu

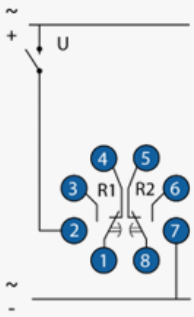
#	Parameter	Value
1	**Input Time** Select input time wave	0.020s 0.020s 0.001 s 0.001s
2	**Input Type** Select input to work with a NPN or PNP signal	PnP PNP nPn NPN
3	**Time Limit** Select upper time limit	9999 9999 0000 0000
4	**Brightness** Select screen brightness	100 100% 50 50%
5	**Sleep After** Select the time needed to turn off the screen	oFF Off 5 s 5s 10 s 10s 30 s 30s 60 s 60s
6	**Lock** Select security level 1 (lock configuration) or 2 (lock all)	oFF Off 1 1 2 2
6.1	**Pass** Set password for lock option	0000 0000
6.2	**Done** Indication that the lock is on	
7	**Default Settings** Reset settings to default values	no No YES Yes
7.1	**Sure** Confirm if reset settings to default values	no No YES Yes
7.2	**Done** Indication that settings have been reset	

Test mode menu

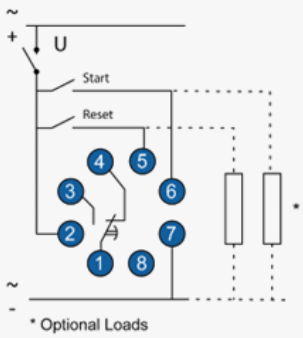
#	Parameter	Value
1	**Out 1** Turn on/off Relay Output 1	oFF Off on On
2	**Out 2** Turn on/off Relay Output 2 (MDA2, GDS2)	oFF Off on On
3	**Display** Turn on/off all display segments	oFF Off on On
4	**Memory** Test the memory of the timer	oFF Off tESt Test
4.1	**Good** Indication that the memory is working properly	
4.2	**Err.** Error Indication that the memory is not working properly	

Wiring diagrams

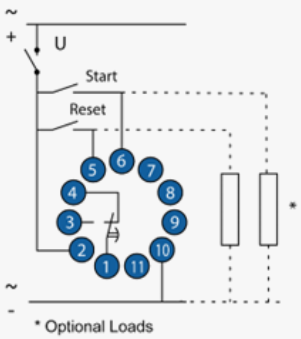
MDA2R10MV2



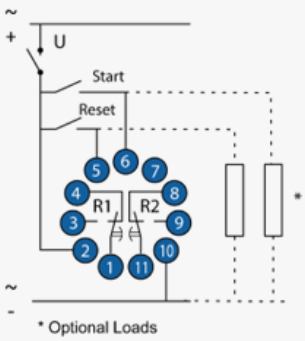
MDF1R10MV2



GDF1R10MV2



GDS2R10MV2



WARNING - The product information contained in this catalogue is given purely as information and does not constitute a representation, warranty or any form of contractual commitment. Crouzet Automatismes SAS and its subsidiaries reserve the right to modify their products without notice. It is imperative that we should be consulted over any particular use or application of our products and it is the responsibility of the buyer to establish, particularly through all the appropriate tests, that the product is suitable for the use or application. Under no circumstances will our warranty apply, nor shall we be held responsible for any application (such as any modification, addition, deletion, use in conjunction with other electrical or electronic components, circuits or assemblies, or any other unsuitable material or substance) which has not been expressly agreed by us prior to the sale of our products.